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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,331	07/22/2003	Shinichi Nishikawa	15162/06050	6976

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EXAMINER

DEGHAN, QUEENIE S

ART UNIT	PAPER NUMBER
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1791

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12/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/624,331	Applicant(s) NISHIKAWA, SHINICHI	
	Examiner Queenie Dehghan	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 4, and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa (2002/0053223) and Ikeuchi (5,738,701) in view of Tomisaka (Machine translation of JP 2003-146673).
3. Nishikawa teaches a manufacturing process for optical elements comprising dropping molten SF57 glass at a temperature of 1000°C ([0050]) onto a lower mold with an optical function surface which has been prepared to a temperature of 400°C and bringing the opposing upper mold (which is heated to 400°C as well) and lower mold together to press the glass and forming two opposed optical function surfaces of the optical element (figure 6, [0058], [0059]). Ikeuchi teaches that SF57 glass has a glass transition temperature of 443°C (col. 11 line 41). Hence, the upper and lower molds of Nishikawa are set to a temperature which is higher than Tg-50°C of SF 57 glass and lower than the temperature of the dropping molten glass and lower than Tg+ 100°C. However, Nishikawa choice of mold does not utilize an outer shape restricting surface. Tomisaka teaches a similar method for forming optical elements comprising:
 - a. forming a positioning reference surface on a rim of the optical element by heating an outer shape restricting surface (3) and the lower mold surface (2) and

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dropping molten glass (at 1050°C) onto a lower mold surface to spread and be in contact with the outer shape restricting surface,

b. pressing the glass to form the two opposed optical function surfaces of the optical element, and

c. releasing the optical elements from the molds and taking out the molded element (drawings 1a, 1b & 4, [0002], [0006], [0016], [0021]).

Tomisaka also teaches setting the temperature of the outer shape restricting surface to 590°C, which is higher than $T_g - 100^\circ\text{C}$ for SF 57 glass.

4. It would have been obvious to one of ordinary skill in the art at the time the invention was made to expect that the temperatures of the upper and lower molds of Nishikawa as well as outer shape restricting surface of Tomisaka are maintained at a constant target temperatures that are lower than that of the dropping molten glass since both Nishikawa has disclosed pressing temperatures of 400°C and Tomisaka has disclose reference surface forming step at 590°C, as already discussed above.

5. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the heated outer shape restricting surface of Tomisaka in process of Nishikawa in order to form lens that have a thicker core, that is thicker lens, without damaging the edges of the lens, as taught by Tomisaka.

6. Regarding claim 6, Nishikawa teaches of a process where molten glass drop amount is adjusted by colliding the drop with a micro through hole disposed on the dropping path and pushing out a micro drop out of the hole and dropping onto a lower molding surface (abstract, figure 6).

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7. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa (2002/0053223) and Ikeuchi (5,738,701) in view of Tomisaka (Machine translation of JP 2003-146673), as applied to claim 1 above, in further view of Shimizu et al. (JP abstract 60-171231). Nishikawa, Ikeuchi and Tomisaka fail to specifically mention a second reference surface on the lower mold surface. Shimizu et al. disclose a molding assembly where the lower mold has a restricting surface for forming a second positioning reference surface outside an effective diameter surface in drawings 1-6, wherein the surface is inherently formed simultaneously with the forming of the positioning reference surface on the rim of the optical element as the molds are brought together as mentioned in claim 1 above. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the mold of Shimizu in the process of Nishikawa, Ikeuchi, and Tomisaka as a variant of the desired molds to be use to press mold the desired shape of the final optical element.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa (2002/0053223) and Ikeuchi (5,738,701) in view of Tomisaka (Machine translation of JP 2003-146673), as applied to claim 1 above, in further view of Teramoto (6,288,849). Nishikawa, Ikeuchi, and Tomisaka fail to disclose an optical element whose positioning reference surface is non-circular in a cross section perpendicular to the optical axis. Teramoto teach of an optical element with a cross section of the positioning reference surface perpendicular to the optical axis that is non-circular (figures 12-13, col. 6 lines 18-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the shape of the optical element of

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Teramoto in the process of the press molding optical elements of Ikeuchi, Nishikawa, and Tomisaka because of its desired shape for use in a camera, as taught by Teramoto.

Response to Arguments

9. Applicant's arguments with respect to claims 1, 4 and 6-9 have been considered but are moot in view of the new ground(s) of rejection. Claim 1 has been amended to eliminate the limitation of a lower mold having an outer shape restricting surface, resulting in the withdrawal of the Ikeuchi as the primary reference. Instead Ikeuchi is used to teach a Tg temperature for SF57 glass and not for the points argued by the applicant in the response dated October 12, 2007.

10. Furthermore the applicant presumes that the mold of Nishikawa is not heated prior to dropping the droplets, which is not true, as pointed out above. In fact, the second embodiment indicates that the "molten glass droplet was dropped onto a flat mold heated to 400°C", which indicates a mold that is heated to 400°C already.

1. In regards to the reference of Shimizu, the applicant speculates that the glass molding temperature is below transition temperature of the glass because of the enclosed space and that molten glass was not used. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Also, the drawings of Shimizu molding operation do appear to differ from the applicant's own figure 3C.

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Conclusion

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Queenie Dehghan whose telephone number is (571)272-8209. The examiner can normally be reached on Monday through Friday 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Q Dehghan



RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1791